



St. Lucie County International Airport (FPR)

*Master Plan Update
Potential Airport Development*

*Board of County Commissioners
February 1, 2010*



St. Lucie County
International Airport
on Florida's Treasure Coast





Master Plan and Airport Layout Plan Update

- ▶ *Purpose – to meet federal assurances for grant funding eligibility.*
- ▶ *Objectives:*
 - ▶ *to create 20-year plan to accommodate forecast demand;*
 - ▶ *address aviation, environmental and socioeconomic requirements of the County, and*
 - ▶ *coordinate with and incorporate County planning efforts*



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Additional BOCC Objectives

- ▶ *Evaluate requirements to support: passenger commercial service, corporate, air cargo and air carrier maintenance operations*
- ▶ *Identify areas for non-aviation industrial and commercial development*
- ▶ *Protect Environmentally Sensitive Areas*
- ▶ *Limit impacts to noise sensitive communities*
- ▶ *Coordinate Master Plan Development with County's Comprehensive Plan*



Long-Term Role of Airport?

- ▶ *General Aviation (Training, Corporate, Aircraft Maintenance, Refurbishment, Painting, Emergency Services, etc.)?*
- ▶ *Limited Commercial Passenger Service (Commuter Aircraft < 100 Passenger Seats)?*
- ▶ *Air Carrier Commercial Passenger Service (>100 Passenger Seats)?*
- ▶ *Other Options?*

The Role of the Airport will define Future Development and Operations.



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DRAFT TAC RECOMMENDATIONS

June 30th Workshop



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Draft Group Recommendations

- ▶ *Relocate Power Lines*
- ▶ *Reserve property west of Runway 10R for Runway Extension.*
- ▶ *Do not extend Runway 28L*
- ▶ *Extend Runway 14 to Northwest*
- ▶ *Short-Term Develop Airport Administration Building and Customs for Commercial Terminal*
- ▶ *Industrial Development North Airport Property*
- ▶ *Improve Surface Access :*
 - ▶ *Expand St. Lucie Blvd and Indrio Road to 4-lanes*
 - ▶ *Improve access to North King's Highway, Florida Turnpike and I-95*
- ▶ *Develop airport as multi-modal facility*
- ▶ ***Long-Term** -Construct Commercial Terminal Facilities between Runways 10R-28L and 10L-28R*
- ▶ *Coordinate Development with Planned Transportation and Growth Management Development (50 Years)*



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PRELIMINARY ALTERNATIVES

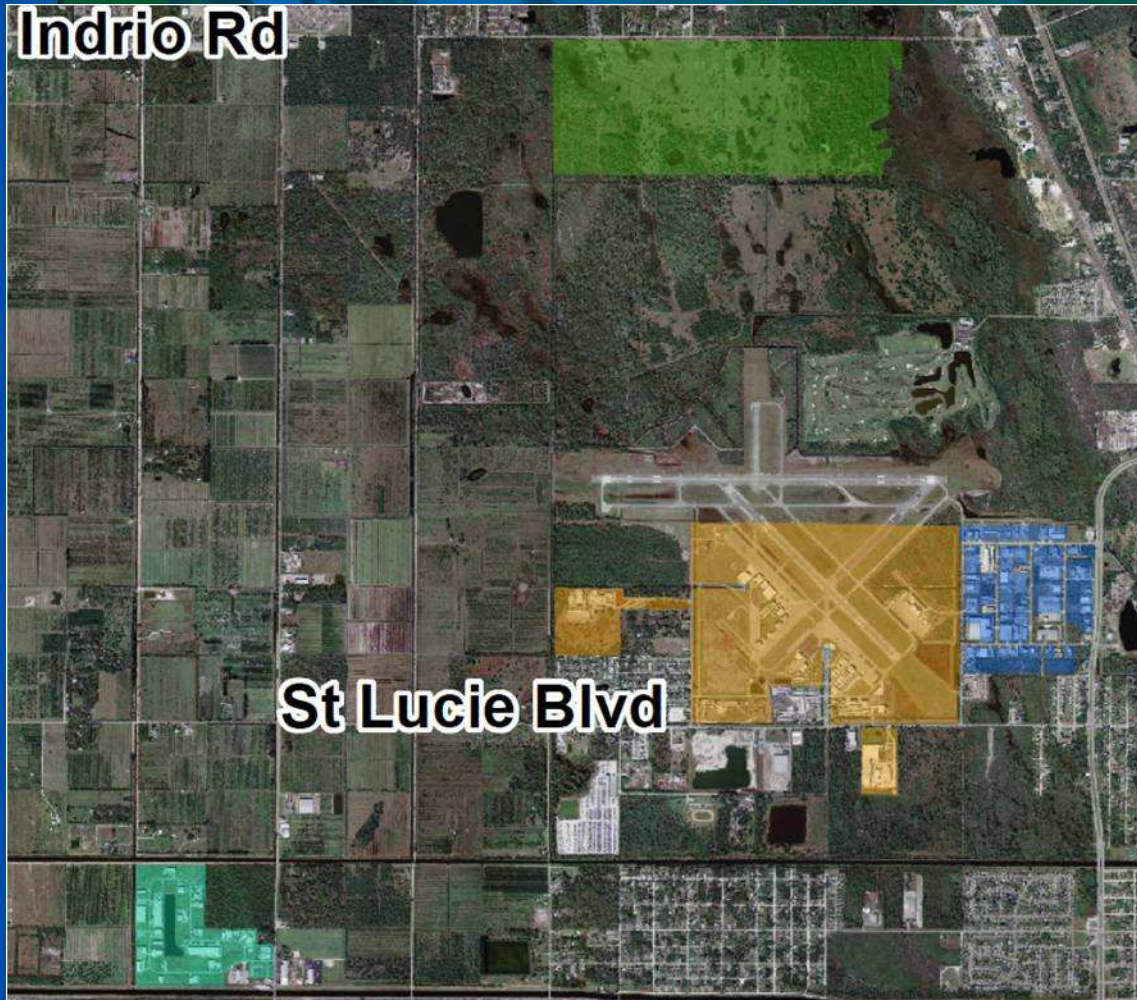


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Foreign Trade Zones



Foreign Trade Zones

Sites

-  Kings Highway Industrial Park
-  Airport North
-  Airport Industrial Park
-  Airport South

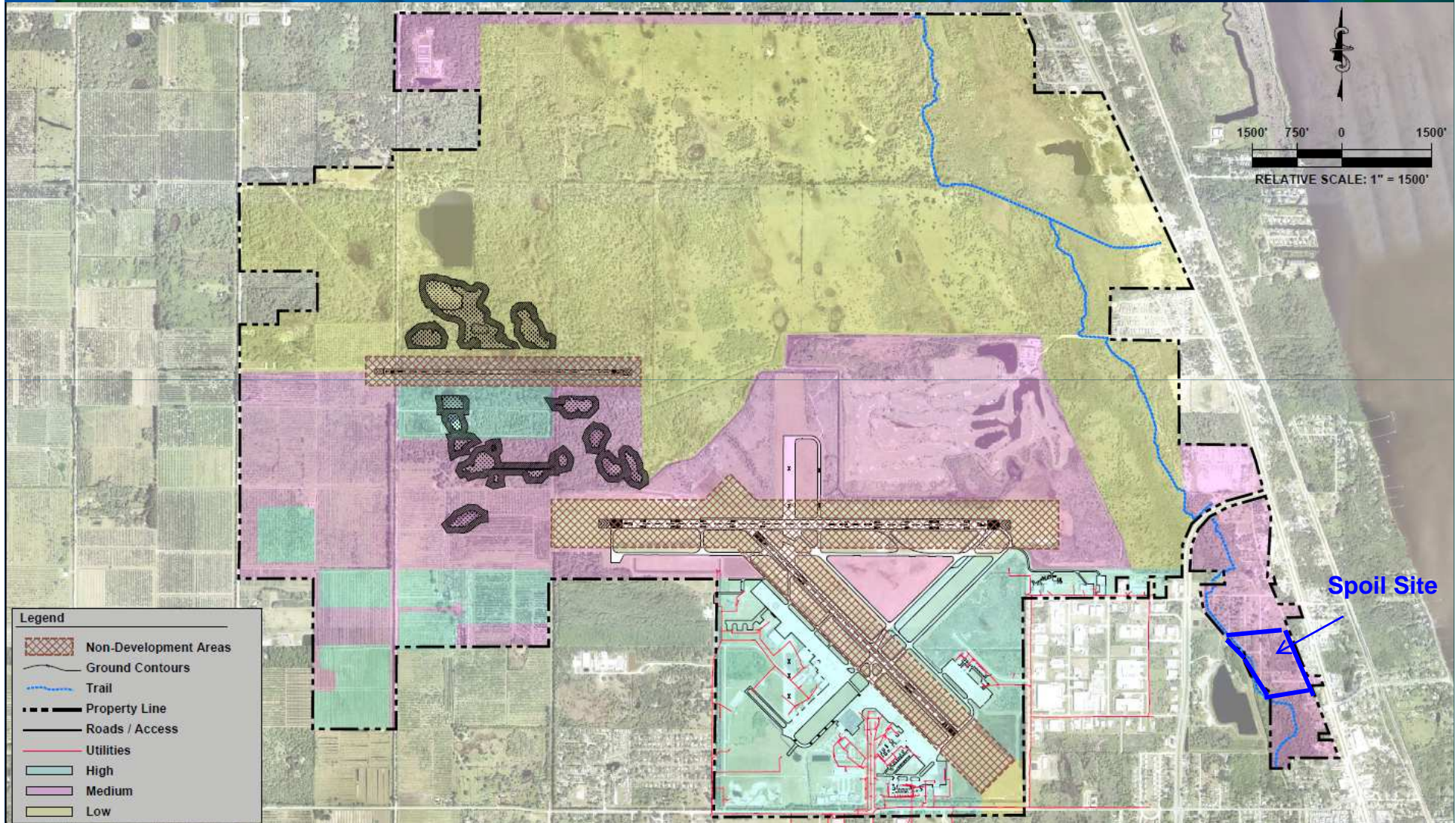


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Airport Development Zones



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Non-Aviation Development

- ▶ *Existing Airport Property Evaluated based upon:*
 - ▶ *Highest and Best Use*
 - ▶ *Direct Access to Airfield*
 - ▶ *Aviation Requirements*
 - ▶ *Safety and*
 - ▶ *Contiguous Land Use*
- ▶ *Property not required for Aviation or Environmental Protection designated*
Non-Aviation





Potential Alternative Scenarios

- ▶ *Alternative 1 – General Aviation Only¹*
- ▶ *Alternatives 2A (≤ 50 Seats) and 2B (≤ 100 Seats) – Limited Commercial Passenger Service²*
- ▶ *Alternative 3 – Air Carrier Passenger Commercial Service²*
- ▶ *Combination of All Three?*
- ▶ *Other Option?*

¹*Includes scheduled aircraft with 9 seats or less and unscheduled aircraft with less than 31 seats; air cargo; aircraft maintenance; corporate, training, etc.*

²*Requires 14 CFR Part 139 Certification. Airport Requirements dependent upon demand and 14 CFR Part 121, 135 and 380 (public charters with more than 31 seats) operating requirements*



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All Alternative Options Key Development

20-Year Requirements

- ▶ *Pavement Evaluation and Rehabilitation*
- ▶ *Taxiway relocation and widening*
- ▶ *Navigational Aids*
- ▶ *Security Fencing*
- ▶ *EA, Drainage and Permitting*
- ▶ *Pavement Strengthening*
- ▶ *Runway 14-32 and Taxiway Extension*

20-Year Recommendations

- ▶ *Visual Aids*
- ▶ *Perimeter Road*
- ▶ *Hangar Development*
- ▶ *Non-Aviation Development*

Estimated 20-Year Total Costs = \$61.9 million



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Alternative Option 1

- ▶ *Airport Role: General Aviation*
- ▶ *Target Market:*
 - ▶ *Corporate Aviation*
 - ▶ *Aviation Training*
 - ▶ *Aircraft Maintenance, Painting and Refurbishment*
 - ▶ *Scheduled Air Taxi < 9 Passengers*
 - ▶ *Unscheduled Air Taxi < 30 Passengers*



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Critical Aircraft – Alternative 1

- ▶ *Gulfstream 550*
 - ▶ *ARC C-III*
 - ▶ *MTOW : 91,000 lbs*
 - ▶ *Gear: Dual Wheel*
 - ▶ *Takeoff (60% LF): 2,670'; Takeoff (90% LF): 5,680'*



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Alternative 1 Projects

20-Year Requirements

- ▶ *Environmental and Permitting Projects*

20 -Year Recommended

- ▶ *Rehabilitate US Customs*
- ▶ *Expand Airport Administration Building*
- ▶ *Displace Runway 32 Threshold*
- ▶ *Airport Drainage Improvements associated with Displaced Threshold*

Estimated 20 -Year Total Costs = \$65.7 million

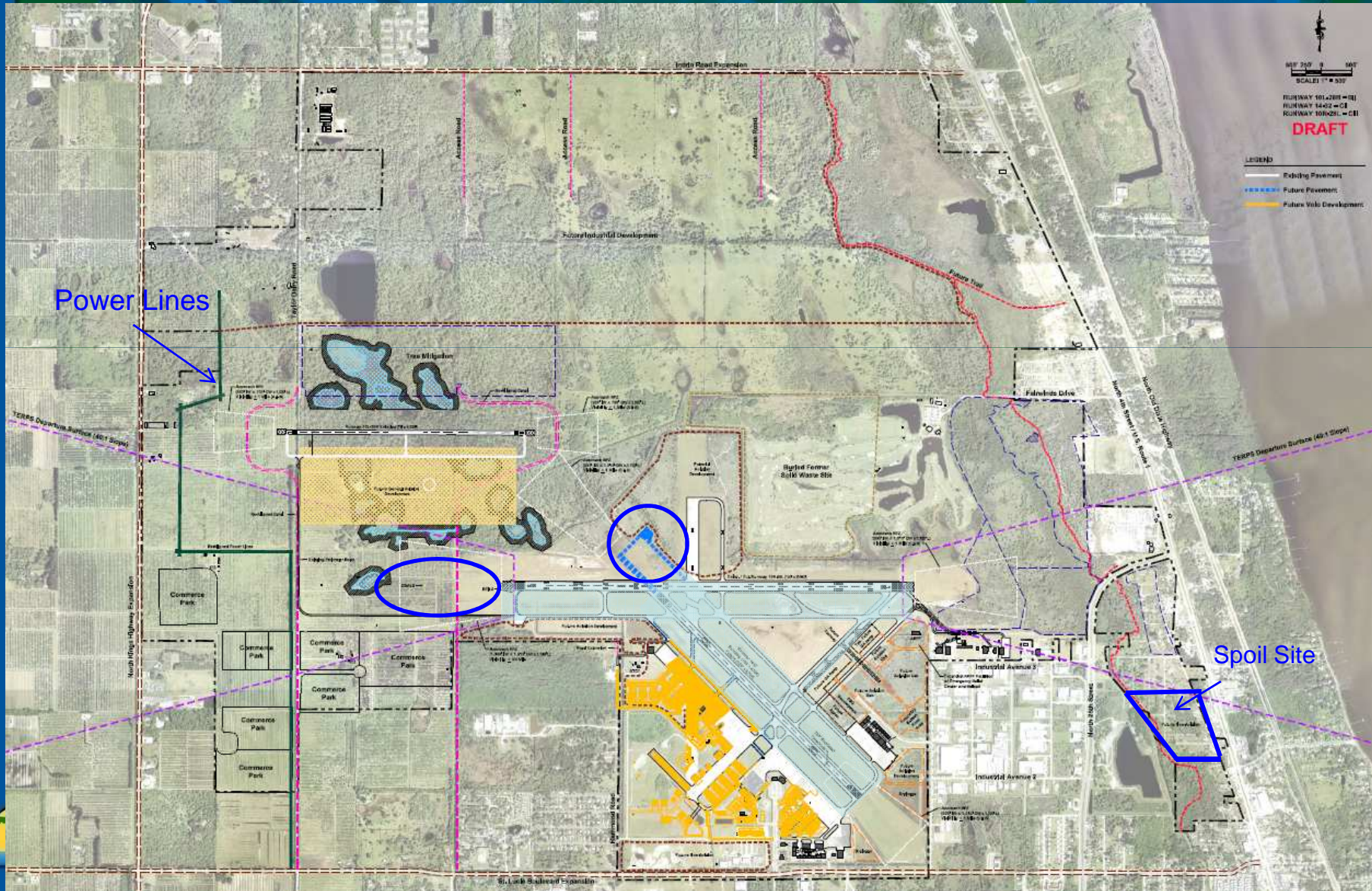


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Alternative 1 – General Aviation Development





Economic Opportunity

- ▶ Grand Bahamas Chamber of Commerce interested in partnership with St. Lucie County
- ▶ Potential air taxi (Part 135) or commercial (Part 121) service between FPR and Bahamas
- ▶ Would be beneficial for the local economy (job creation, tourism revenue, positive airport image, etc.), potentially encouraging future business investments
- ▶ Some upgrades to airport terminal (administration building) and other facilities needed to accommodate commercial **passenger** service (FAR Part 139, Part 121 and Part 135)



**Bahama Tourism a
Key to our
Economic Recovery**
Airport part of plan





Commercial Airport Classes

14 CFR Part 139

The Purpose of Part 139 is to Ensure Safety in Air Transportation, and is associated with Passenger Service Only

Type of Air Carrier Operation	Airport Classes			
	I	II	III	IV
Scheduled Large ¹ Air Carrier Aircraft	X			
Unscheduled Large Air Carrier Aircraft ²	X	X		X
Scheduled Small Air Carrier ³ Aircraft	X	X	X	
¹ Large Air Carrier = 30 seats or greater configuration ² Includes Public Charters certified under 14 CFR Part 380 ³ Small Air Carrier = 9 to 30 seats configuration				

Revises a section of an air carrier operation regulation (14 CFR Part 121) to conform with the revised Part 139, which went into effect June 2004.



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Sample Airport Part 139 Certification List

Airport Name	New Part 139 Classification	ARFF Index
Fort Lauderdale/Hollywood International	I	E
West Palm Beach International	I	D
Charlotte County Airport	I	A
St. Augustine/St. Johns County Airport	I	A
Athens/Ben Epps Airport, GA	II	A
Four Corners Regional Airport, NM	III	A
Lakeland Linder Regional Airport	IV	A
Vero Beach Municipal	IV	A

Airports within the same Aircraft Class can range in size, facilities and operations based upon operator requirements and passenger demand.



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Commercial Passenger Service

- ▶ *What does St. Lucie County International Airport need to support Commercial Passenger Service under FAR Part 139?*
 - ✓ *Airfield Facilities and Navigational Aids*
 - ✓ *Aircraft Rescue and Fire Fighting Facilities*
 - ✓ *Perimeter Fencing*
- ▶ *Commercial Terminal – in Progress*
- ▶ *Expanded US Customs – in Progress*
- ▶ *Airport Certification Manual and Security Manual – in Progress*



Airport Role

Alternative 2A

- ▶ *Supports Commercial Passenger Service \leq 50 Seats.*
- ▶ *Target Market:*
 - ▶ *Corporate Aviation*
 - ▶ *Aviation Training*
 - ▶ *Aircraft Maintenance, Painting and Refurbishment*
 - ▶ *Small to Medium Air Cargo*
 - ▶ *Scheduled Air Carrier/Air Taxi (9 Passenger \leq 50 Passengers)*
 - ▶ *Unscheduled Air Taxi/Charter (30 Passengers \leq 50 Passengers)*

Alternative 2B

- ▶ *Represents next level of commercial passenger service (\leq 100 Seats) and supports regional jet service.*
- ▶ *Supports regional air carrier operations*
- ▶ *Target Market:*
 - ▶ *Corporate Aviation*
 - ▶ *Aviation Training*
 - ▶ *Aircraft Maintenance, Painting and Refurbishment*
 - ▶ *Small to Medium Air Cargo*
 - ▶ *Scheduled Air Carrier/Air Taxi (9 Passenger $<$ 100 Passengers)*
 - ▶ *Unscheduled Air Taxi/Charter (30 Passengers $<$ 100 Passengers)*



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Alternative 2 – Regional Passenger Commercial Service

Option 2A – Service from Bahamas

- ▶ Critical Design Aircraft

Gulfstream 550
Corporate



DH-8 Q-300
Commercial

50 Passengers



Option 2B – Regional Jet Service

- ▶ Critical Design Aircraft

CRJ-900 ER
Commercial

86 Passengers



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Key Projects

Both Alternative 2A and 2B

20-Year Requirements

- ▶ *Retrofit and Reconfigure Terminal Building and Parking*
- ▶ *Expand US Customs and Border Patrol*
- ▶ *Acquire Runway 32 Easement*
- ▶ *Extend Taxiway D*
- ▶ *High Intensity Rotating Beacon*
- ▶ *Expand Electrical Vault*

20-Year Recommendations

- ▶ *Extend Taxiway A*
- ▶ *Construct West General Aviation Apron*
- ▶ *Expand Fuel Facilities*
- ▶ *Construct North General Aviation Apron*
- ▶ *Install North Taxiway*
- ▶ *Install additional signage and visual aids*



Proposed Commercial Passenger Terminal

STANDARD FAA REQUIREMENTS	
SPACE BEHIND TICKET COUNTER	8' – 10' TYPICAL
QUEUING DEPTH @ TICKET COUNTER	12' – 15' TYPICAL
MINIMUM CIRCULATION DEPTH IN LOBBY BEHIND TICKET COUNTER QUEUING	20' MINIMUM
QUEUING SQUARE FOOTAGE FOR 50 PASSENGERS BEHIND TICKET COUNTER	750 SQ FT RECOMMENDED
QUEUING SQUARE FOOTAGE FOR 50 PASSENGERS BEHIND TICKET COUNTER	750 SQ FT RECOMMENDED
SQUARE FOOTAGE FOR 50 PASSENGERS IN LOBBY	1000 SQ FT RECOMMENDED
SQUARE FOOTAGE FOR 50 PASSENGERS IN HOLD ROOM	538 SQ FT RECOMMENDED

EXISTING AREA	3,504.0 SQ.FT.
NEW AREA	3,729.0 SQ.FT.
AIR SIDE COVER ENTRY	193.0 SQ.FT.
LAND SIDE CURVE SIDE	731.0 SQ.FT.
BAGGAGE MAKE UP	275.0 SQ.FT.
TOTAL BUILDING	8,432.0 SQ.FT.



1 SOUTH ELEVATION
SCALE: 1/8" = 1'-0"



PROPOSED FLOOR PLAN
SCALE: 1/8" = 1'-0"



Alternative Comparison: Options 2A vs. 2B

Option 2A

- ▶ Supports Turboprop Passenger Aircraft (i.e. DH-8 Q-300)
- ▶ Supports heavy (>60,000 lbs) Corporate Aircraft (i.e. Gulfstream 550)
- ▶ Visibility Minimums greater than or equal to $\frac{3}{4}$ statute mile
- ▶ Requires approach lighting (ODALS or MALS)
- ▶ Does not require relocation of existing power lines
- ▶ Requires extension of Taxiway C
- ▶ **Est. 20-Year Total Costs = \$73.1 million**

Option 2B

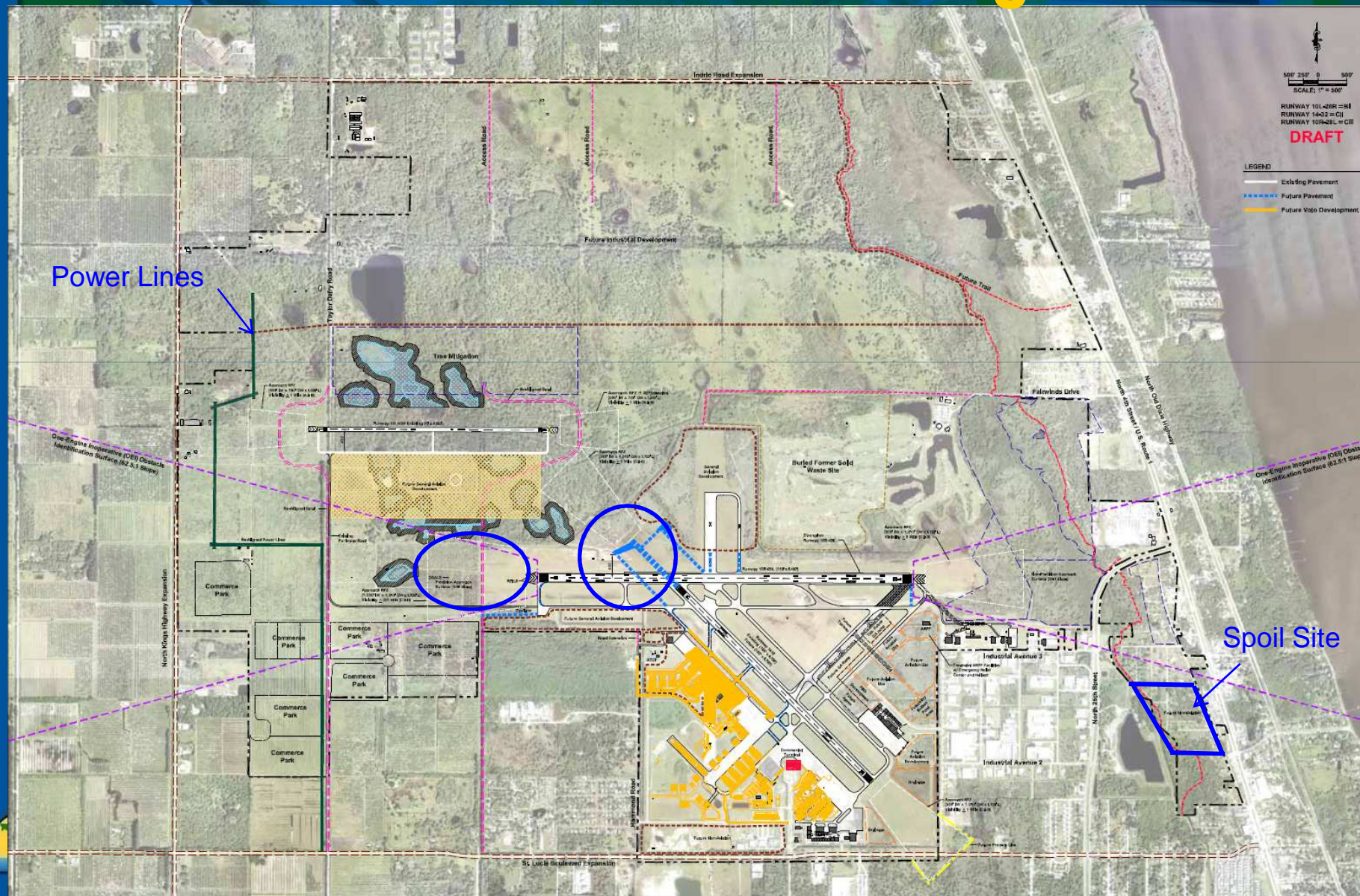
- ▶ Supports Regional Jets (i.e. CRJ-900), commercial turboprop, and heavy corporate aircraft
- ▶ Lowers visibility minima to $\frac{1}{2}$ statute mile
- ▶ Requires approach lighting (MALSR) and upgraded runway lighting
- ▶ Requires relocation of existing FPL power lines to Seminole Blvd.
- ▶ Requires additional ARFF Equipment
- ▶ Requires extension of Taxiway A-3 to the North
- ▶ Provides Airport greater flexibility to attract carriers
- ▶ Supports potential airport expansion
- ▶ **Est. 20-Year Total Costs = \$87.3 million***

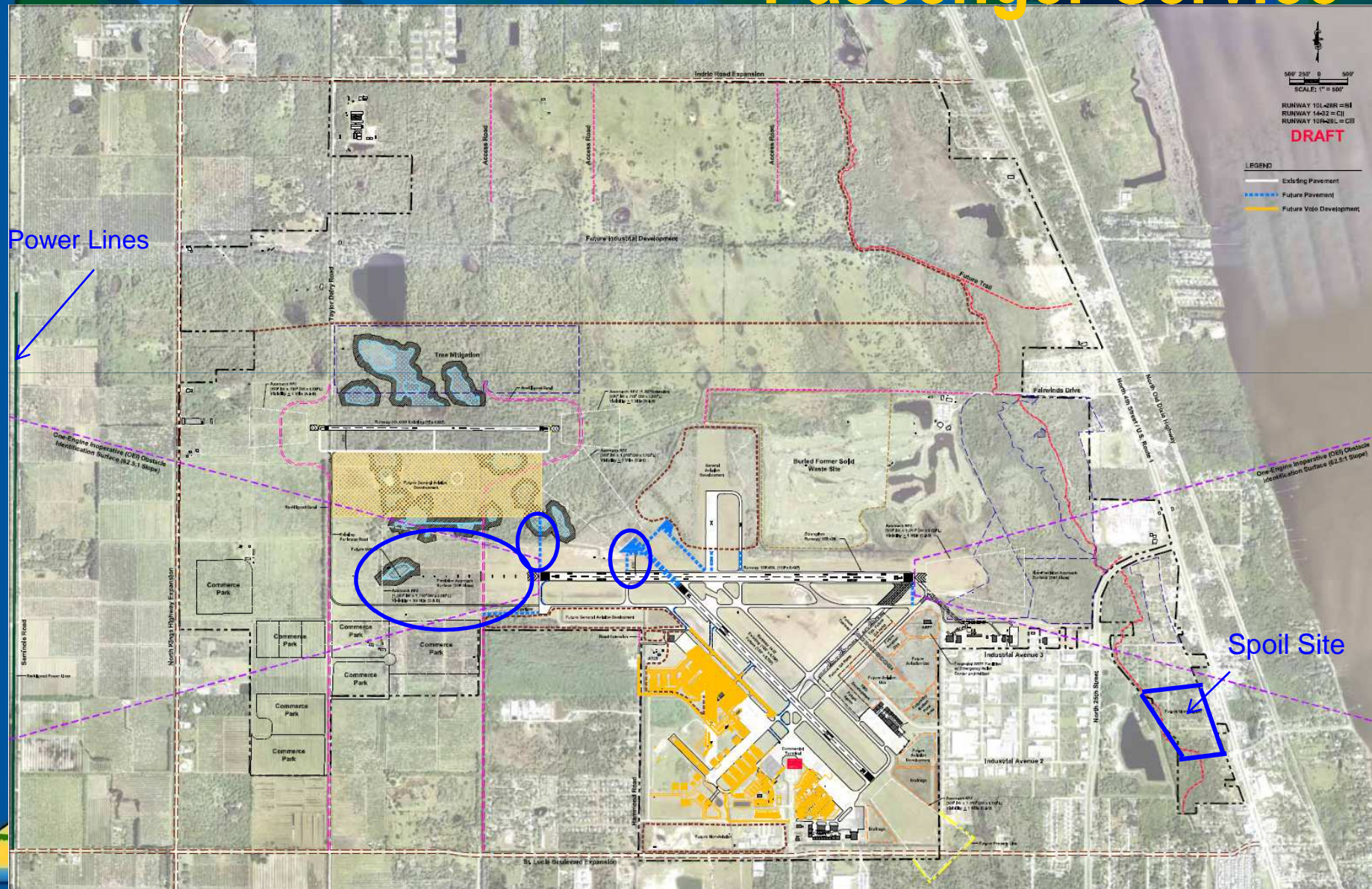
* Includes 10 million estimate for FPL Power Line relocation



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Air Carrier Commercial Passenger Service

Demand Beyond 20-Year Planning Period



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Alternative Option 3

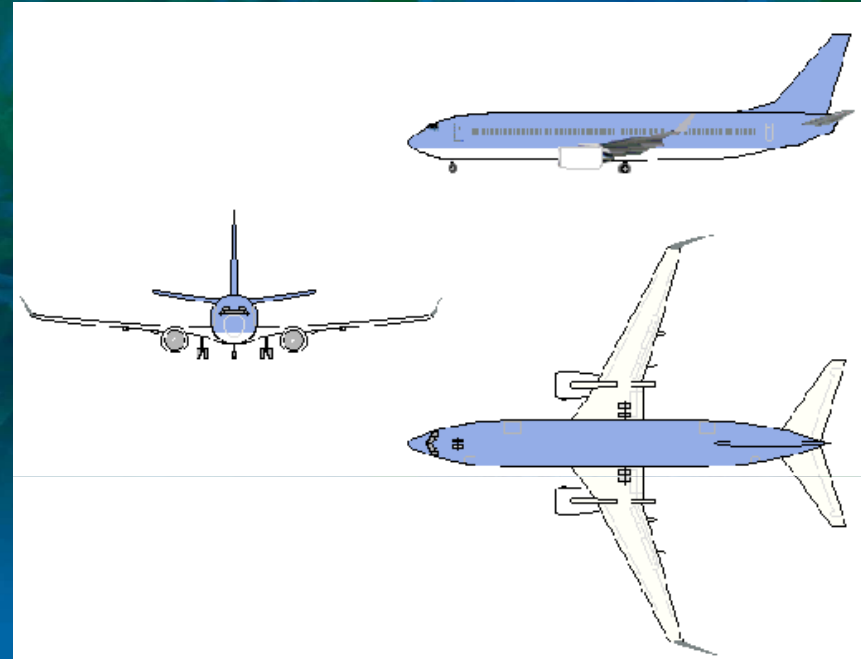
- ▶ *Airport Role: National and International Commercial Passenger Service (Market Driven)*
- ▶ *Target Market:*
 - ▶ *Corporate Aviation*
 - ▶ *Aviation Training*
 - ▶ *Aircraft Maintenance, Painting and Refurbishment*
 - ▶ *Air Cargo*
 - ▶ *Scheduled Air Carrier/Air Taxi (>100 Passengers)*
 - ▶ *Unscheduled Air Taxi/Charter (>100 Passengers)*



Critical Aircraft – Alternative 3

Airport Design & Commercial Role

- ▶ *Boeing 737-800*
 - ▶ *Seats: 162-189*
 - ▶ *MTOW: 174,200*
 - ▶ *Gear: Dual Wheel*
 - ▶ *ARC C-III*
 - ▶ *Regulatory Field Length @ MTOW: 8,150 ‘*



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Alternative 3 Key Projects

20-Year Requirements

- ▶ *Retrofit Terminal & Reconfigure Parking*
- ▶ *Expand US CBP*
- ▶ *Taxiway and Airfield Signage Improvements*
- ▶ *High Intensity Rotating Beacon*
- ▶ *Extend Taxiway D & Reconfigure D-1*
- ▶ *Security fencing, markings, etc*
- ▶ *Relocate FPL Power Lines*
- ▶ *Install MALSR and Upgrade Runway Lighting*
- ▶ *Install North South Taxiway*
- ▶ *Expand ARFF Facilities*
- ▶ *Commercial Apron Construction and Terminal Facilities*

20-Year Recommendations

- ▶ *Extend Taxiway A-3 and Construct Holding Pad new Threshold of Runway 14*
- ▶ *Install Displaced Threshold Runway 32*
- ▶ *Construct West GA Apron (~2500 SY)*
- ▶ *Tree Survey and Tree Mitigation Relocation*
- ▶ *Construct North Central GA Apron and North-South Taxiways*
- ▶ *Construct North Parallel Taxiway – Runway 10R-28L*
- ▶ *Drainage, environmental and signage improvements, etc.*

Estimated 20-Year Cost = \$109 million



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Alternative 3

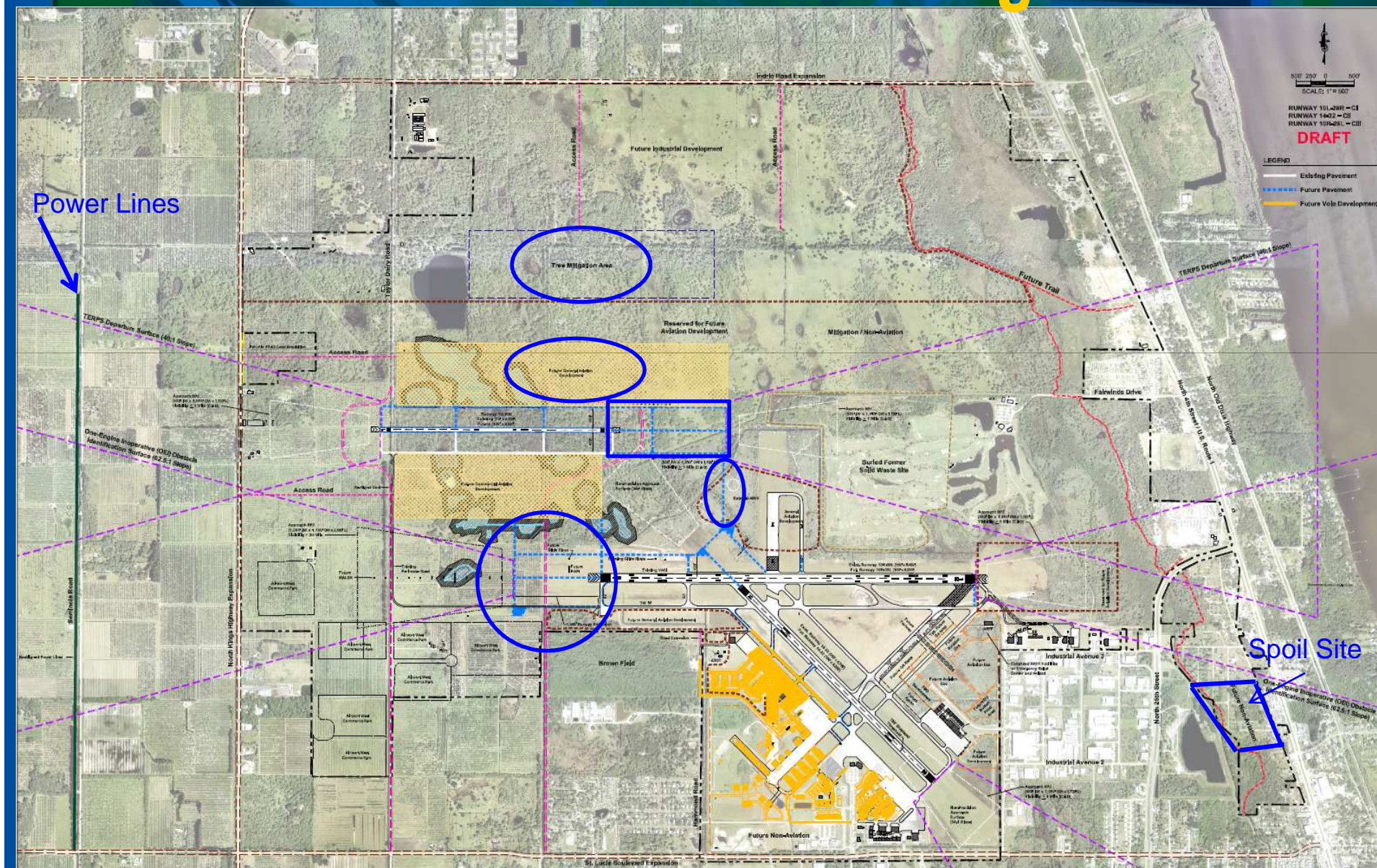
Ultimate Development Projects

- ▶ *Extend & Strengthen Runway 10R-28L*
- ▶ *Extend and Strengthen Taxiways A and North Parallel Taxiway*
- ▶ *Relocate MALSR and Install Transmissometer Antennae (3)*
- ▶ *Install Local Area Augmentation System (LAAS)*
- ▶ *Install approach lighting Runway 28L*
- ▶ *Extend, widen and strengthen Runway 10L-28R*
- ▶ *Extend, widen and strengthen taxiways*
- ▶ *ARFF Improvements*
- ▶ *Acquire Parcels 40-42*
- ▶ *Environmental Studies and Permitting*
- ▶ *Drainage Improvements*
- ▶ *Lighting and Electrical Vault Improvements*
- ▶ *Upgrade Pavement Markings*
- ▶ *Expand Perimeter Road, etc.*



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Draft Alternative Matrix

Airfield Evaluation Criteria	Alternatives			
	1	2A	2B	3
Resolves Runway Object Free Issue	X	X	X	X
Accommodates ARC C-III aircraft	X	X	X	X
Lowers approach minima			X	X
Addresses Forecast Operational Capacity	X	X	X	X
Accommodates Commercial Passenger Service		X	X	X
Land Acquisition/Easement		X	X	X
Environmental and Drainage Impacts	X	X	X	X
Relocation of Power Lines			X	X
Preserves for Non-Aviation Development	X	X	X	X
Preserves for Future Aviation Development				X
Estimated Required Projects Order of Magnitude Cost Estimates (in millions)	\$17.6	\$21.5	\$35.6	\$58.4
Estimated Recommended Projects Order of Magnitude Cost Estimates (in millions)	\$48.1	\$51.6	\$51.6	\$50.5
Estimated Total Order of Magnitude Costs (in millions)	\$65.7	\$73.1	\$87.3	\$109



TAC RECOMMENDATIONS

Future Airport Development

October 14th Workshop



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Key TAC Recommendations

- ▶ *Implement NextGen technology to address noise abatement.*
- ▶ *Use **Alternative 2A**, Limited Commercial Development, as base for Airport Layout Plan, but **Preserve Areas** for **Long-Term Development**.*
- ▶ *Pursue long-term relocation of FPL Power Lines to Seminole Road.*
- ▶ *Pursue short and mid-term pavement improvements.*
- ▶ *Implement facilities in support of limited commercial development, and*
- ▶ *Continue to pursue development in support of airport self sufficiency.*



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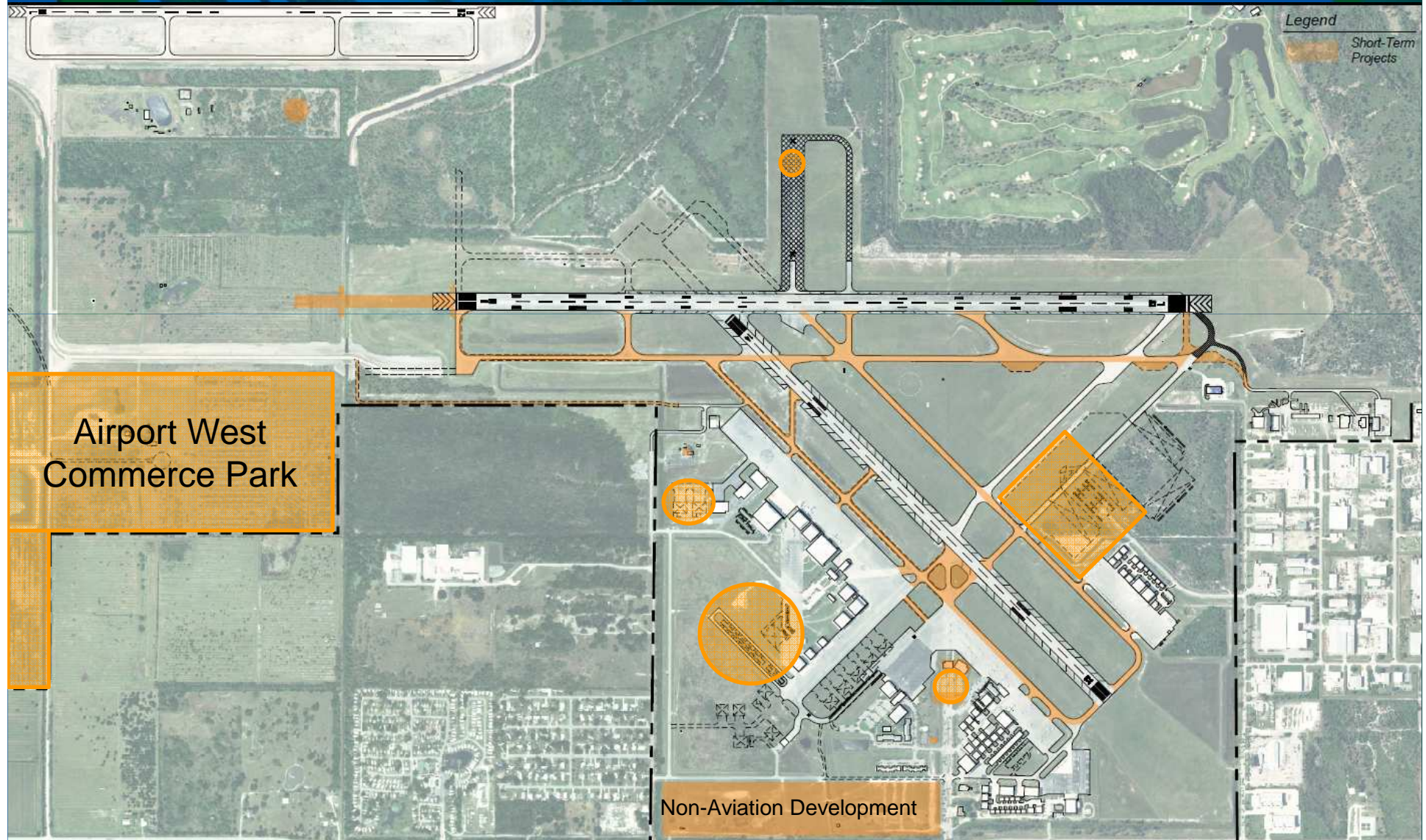
TAC Recommended Long-Term Development

- ▶ *Short-Term Development (2009-2013)*
- ▶ *Mid-Term Development (2014-2018)*
- ▶ *Long-Term Development (2019-2029)*
- ▶ *Beyond 20-Year Planning Period*

*Project Phasing Ultimately Depends upon
Need and Available Funding*

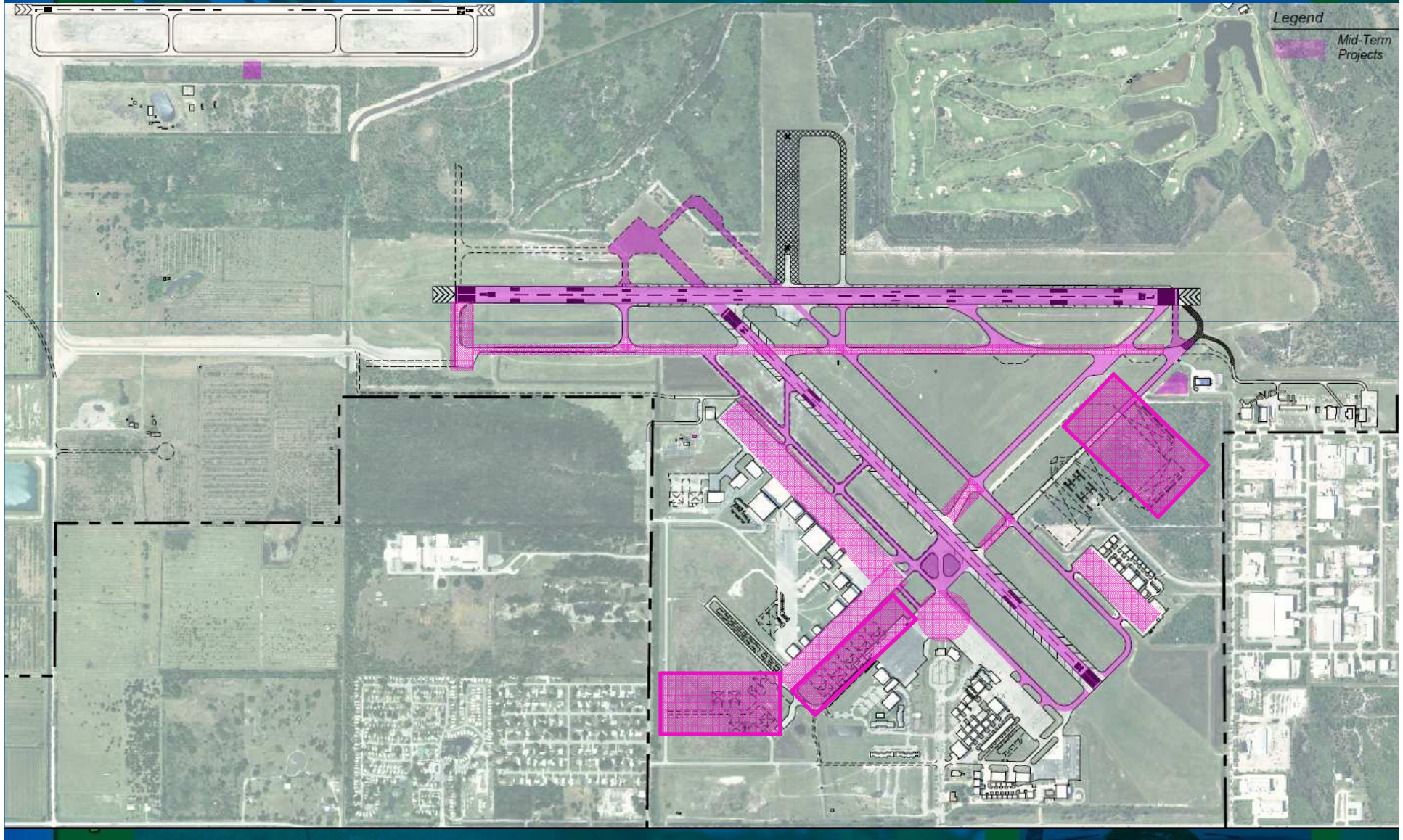


Short-Term (2009-2013) Project Phasing



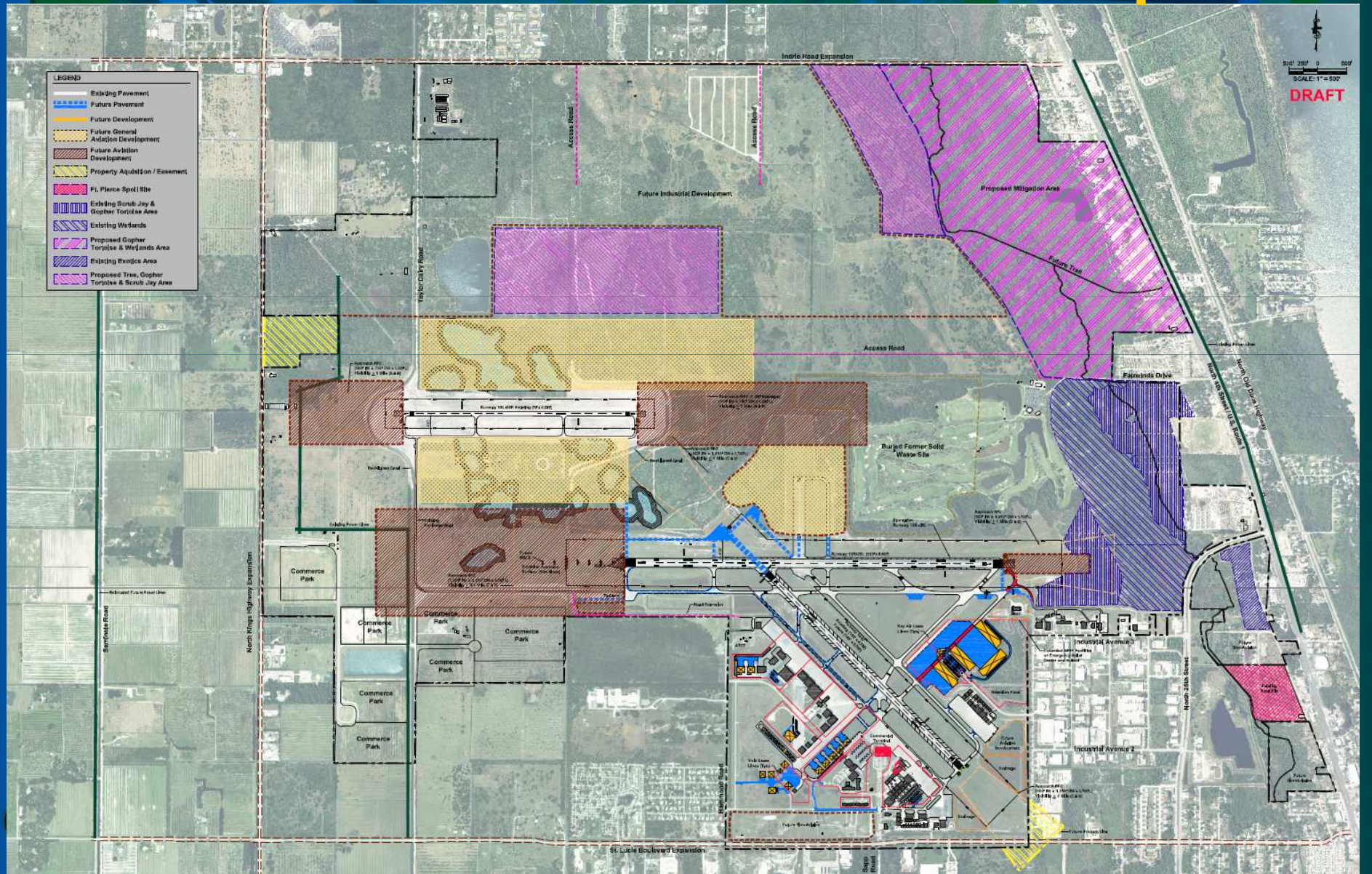


Mid-Term (2014-2018) Project Phasing



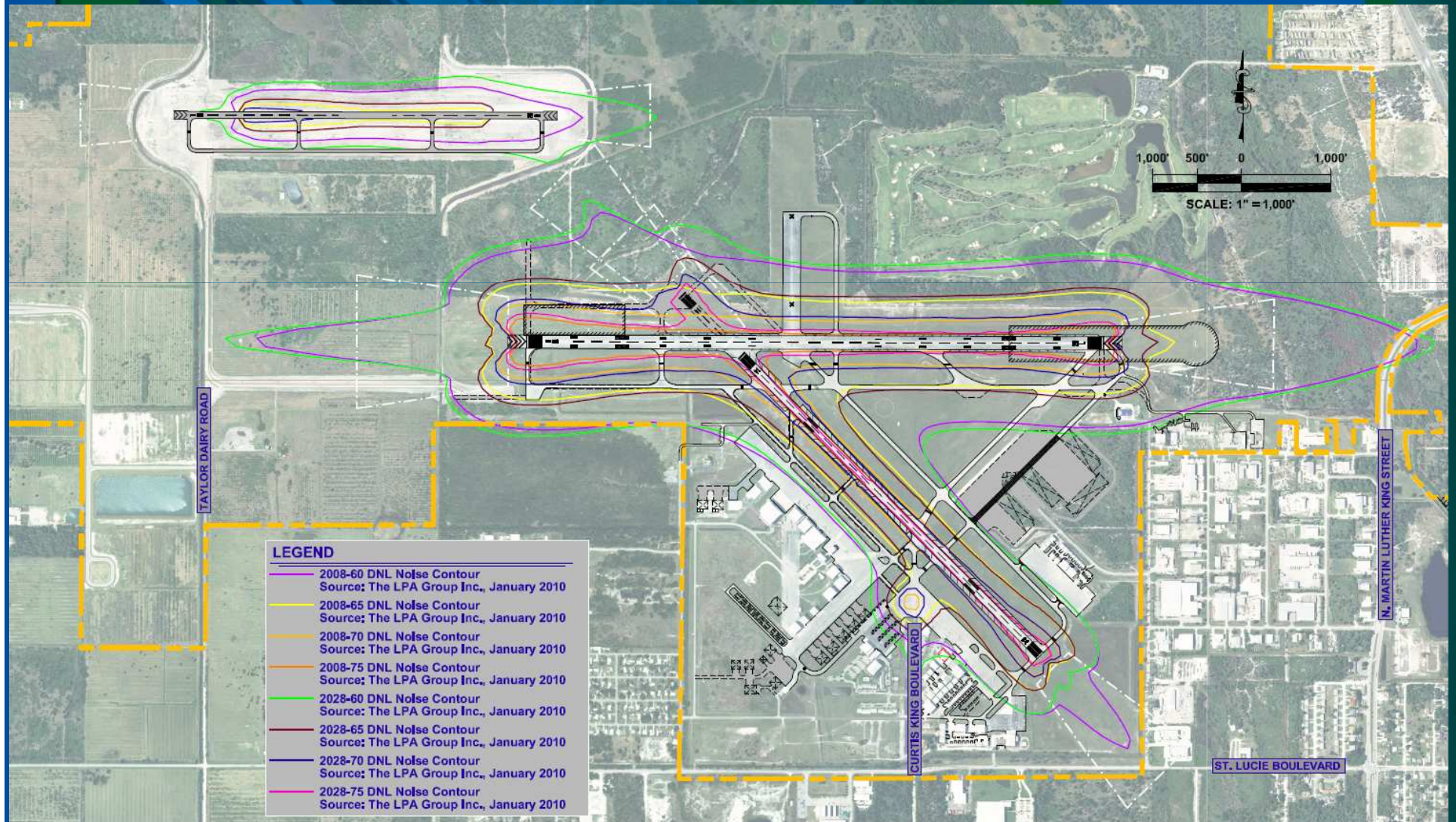


TAC Recommended Ultimate Development





2008 and 2028 Noise Contour Comparison 60 – 75 DNL Contours





TAC Recommended Preliminary Development Costs

Project Description	Estimated Cost	Estimated Maximum Funding Breakdown			
		Federal	State	Local	Other/Private
Required Short-Term Only	\$8,949,587	\$6,458,100	\$1,319,369	\$1,172,119	\$0
Recommended Short-Term Only	\$15,137,250	\$2,191,888	\$69,650	\$70,713	\$12,805,000
Required Mid-Term Only	\$8,900,000	\$8,455,000	\$222,500	\$222,500	\$0
Recommended Mid-Term Only	\$19,904,000	\$868,300	\$1,047,850	\$447,850	\$17,540,000
Required Long-Term Only	\$1,400,000	\$855,000	\$272,500	\$272,500	\$0
Recommended Long-Term Only	\$19,819,000	\$8,496,000	\$5,229,500	\$4,461,500	\$1,632,000
Required Project Order of Magnitude Costs*	\$22,137,025	\$18,133,315	\$2,086,524	\$1,917,186	\$0
Recommended Project Order of Magnitude Costs*	\$63,089,288	\$13,289,616	\$7,299,050	\$5,727,072	\$36,773,550
Total Projects Order of Magnitude Costs*	\$85,226,313	\$31,422,931	\$9,385,574	\$7,644,258	\$36,773,550
* Includes 15% Contingency					

Phasing Depends upon Demand and Funding Priorities





Next Steps

- ▶ BOCC Input
- ▶ Finalize Alternatives Chapter
- ▶ Develop Airport Layout Plan
- ▶ Develop Capital Improvement Program and Cash Flow Analyses.

Study Reports, Presentations, Meeting Information, FAQs, and Comment Forms available on County Website

www.stlucieco.gov/airport_masterplan





QUESTIONS AND COMMENTS



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